**Mary Ruth MacDonald, U of Guelph – Clubroot Research Report – Year 2 - 2019**

The research went very well this summer and the field trials are complete now. The Liberty Link cultivars that were advertised as resistant were resistant in our field trials where pathotype 2 is prevalent. Pathotype 2 is the main pathotype in canola production areas in Ontario. This was confirmed in growth room trials with pathotype 2 and pathotype 6. P6 is common in vegetable production areas in Ontario.

We also tested a range of canola cultivars from Corteva and they were resistant also.

The cultivar 45H29 has been the standard. It is interesting, but concerning, that at least 3 fields have been identified in Ontario (two around Verner and one near Orangeville) where clubroot can overcome the resistance in 45H29.

**Table 1.** Clubroot incidence (%) and disease severity index (DSI), and fresh weight and dry weight, of clubroot susceptible and resistant canola cultivars grown at the Muck Crops Research Station, 2019, where pathotype 2 is predominant

| **Cultivar** | **Expected reaction** | **Incidence (%)** | **DSI (0-100)** | **Fresh wt. (g plant$^{-1}$)** | **Dry wt. (g plant$^{-1}$)** |
|---|---|---|---|---|---|
| L234PC | Resistant | 0 a | 0 a | 109 a | 12072 a |
| L2421C | Resistant | 1 a | 0 a | 83 abc | 7703 abc |
| L135C | Resistant | 1 a | 0 a | 96 ab | 8340 ab |
| 45H29 | Resistant | 2 a | 2 a | 99 | 7356 |
| L255PC | Resistant | 21 a | 7 ab | 123 a | 11723 a |
| Mei Qing Choi | Susceptible | 67 b | 49 bc | 30 | 1467 |
| L252 | Susceptible | 71 b | 66 c | 59 bc | 6447 bc |
| InVigor 5030 | Moderately resistant | 79 b | 66 c | 42 c | 4213 c |
| ACS N39 | Susceptible | 81 b | 68 c | 46 c | 5532 bc |
| L233P | Susceptible | 99 b | 86 c | 52 bc | 5955 c |

[1]Means followed by the same letter in a column are not significantly different at $P = 0.05$, Tukey's test.